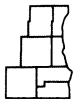
SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION
W239 N1812 ROCKWOOD DRIVE • PO BOX 1607 • WAUKESHA, WI 53187-1607• TELEPHONE (262) 547-6721
FAX (262) 547-1103

Serving the Counties of



MEMORANDUM

TO: MCAMLIS Steering Committee

FROM: SEWRPC Staff

DATE: May 2, 2005

SUBJECT: **STATUS REPORT NO. 11 ON PHASE I OF THE MILWAUKEE COUNTY FLOODLAND MAPPING PROJECT**

This memorandum sets forth the progress made on Phase I of the Milwaukee County Floodland Mapping project from October 1, 2004, through April 30, 2005. That project phase includes all streams that are to be studied in the County, with the exception of those in the Root River watershed. This status report addresses project progress in the following three major areas and also identifies major issues that have now been satisfactorily resolved:

- Data Acquisition
- Hydrologic and Hydraulic Modeling
- Floodland Map Preparation

Overall, the Phase I portion of the project is about 85 percent complete. Progress is summarized in the attached Exhibit 1 and is graphically summarized on the map attached hereto as Exhibit 2.

DATA ACQUISITION

During the period of October 1, 2004 through April 30, 2005, the following data acquisition activities were carried out:

- As indicated by Exhibit 1, data acquisition activities are substantially completed. When additional data needs are addressed as work proceeds, the acquisition of the data is coordinated with the Milwaukee Metropolitan Sewerage District (MMSD), the Wisconsin Department of Natural Resources (WDNR), the Wisconsin Department of Transportation (WisDOT), and the pertinent communities.

- Received hydraulic model cross section location plots from MMSD for the Kinnickinnic River main stem, Lyons Park Creek, S. 43rd Street Ditch, Villa Mann Creek, Villa Mann Creek Tributary, and Wilson Park Creek.

- Obtained digital files of the S. 43rd Street Ditch 100-year recurrence interval floodplain from Montgomery Watson Harza, an engineering consultant to MMSD.

- Obtained from Milwaukee County construction drawings for bridges along the Brown Deer Park tributary in Brown Deer Park Golf Course.

- The Commission executed a contract with Ayres & Associates to obtain field survey data for bridges and culverts along the Little Menomonee River. Data were collected for three hydraulic structures.

HYDROLOGIC AND HYDRAULIC MODELING

During the reporting period, progress on hydrologic and hydraulic modeling for Phase I of the project included the following:

Kinnickinnic River Watershed

- Continued review and revision of the USEPA HSPF model developed for the Kinnickinnic River watershed under Phase 1 of the MMSD watercourse system management plan, and revised under the ongoing Regional Water Quality Management Plan Update/MMSD 2020 Facilities Planning Program. The review and revision are for the purpose of verifying the model calibration and validation according to WDNR and Federal Emergency Management Agency criteria, so the model can be used in the MCAMLIS/MMSD/SEWRPC floodplain mapping program.

- Substantially completed a detailed review of the hydraulic models for Villa Mann Creek and the Villa Mann Creek Tributary.

Menomonee River Watershed

- Work continued on the hydraulic model of the Little Menomonee River, incorporating the stream relocation completed from W. Brown Deer Road to W. Leon Terrace under a U.S. Environmental Protection Agency (USEPA) Superfund project.

- Began review and revision of the USEPA HSPF continuous simulation hydrologic model developed for the Menomonee River watershed model under Phases 1 and 2 of the MMSD watercourse system management plan, and revised under the ongoing Regional Water Quality Management Plan Update/MMSD 2020 Facilities Planning Program. The review and revision are for the purpose of verifying the model calibration and validation according to WDNR and Federal Emergency Management Agency criteria, so the model can be used in the MCAMLIS/MMSD/SEWRPC floodplain mapping program.

- Work was initiated on the hydraulic modeling of Woods Creek.

Milwaukee River Watershed

- Met with the staffs of the City of Milwaukee, the Village of Brown Deer, MMSD, and WDNR to discuss issues related to the MMSD Southbranch Creek flood mitigation project. Refined the hydrologic and hydraulic model for Southbranch Creek to incorporate comments from those meetings and data obtained through additional field observations and measurements.

- Work continued on review and revision of the USEPA SWMM hydrologic model for Beaver Creek.

- Work was initiated on the hydrologic and hydraulic modeling of Brown Deer Park and Indian Creeks.

- The hydraulic model of the Milwaukee River was refined to reflect the City of Milwaukee Riverwalk.

Fish Creek Subwatershed

- Work was initiated on the hydrologic and hydraulic modeling of Fish Creek.

FLOODLAND MAP PREPARATION

- Completed refinements to the maps of the 10-, 50-, 100-, and 500-year floodplain boundaries and the 100-year floodway boundaries along Southbranch Creek in the Village of Brown Deer.

- Preliminary maps showing the Milwaukee River 10-, 50-, 100-, and 500-year floodplain boundaries and the 100-year floodway boundary were completed and provided to affected communities for review and comment.

MAJOR PROJECT ISSUES AND CONSIDERATIONS

Hydrologic Modeling Procedure Approvals—It was reported in the sixth and seventh status reports, dated January 10, 2003, and May 29, 2003, that, as part of their review of the hydrologic study for the Pike River watershed in Kenosha and Racine Counties, Post, Buckley, Schuh & Jernigan (PBS&J), the Federal Emergency Management Agency's (FEMA) map coordination contractor, was developing a set of standards for acceptable continuous simulation modeling studies. The final FEMA report entitled "Pike River Watershed Hydrology and Continuous Simulation Modeling Review and Summary," was issued on August 14, 2003. As we had speculated in past status reports, the PBS&J review and the resulting FEMA report support the continuous simulation modeling procedures as practiced by the Commission and the MMSD. The Commission wrote to FEMA and WDNR indicating Commission acceptance of the findings of the report and the Commission staff intention to proceed with continuous simulation modeling under the MCAMLIS floodplain mapping project, and asking that WDNR provide review comments on the hydrology memoranda that were submitted in 2002 and 2003 as described below.

In December 2003, FEMA initiated a study to develop additional criteria for continuous simulation hydrologic analyses. The additional study is an extension of the August 14, 2003, FEMA study mentioned above. During a November 5, 2004, interagency meeting, the WDNR and SEWRPC staffs reached agreement on the draft FEMA continuous simulation criteria report and, in subsequent drafts, PBS&J has incorporated SEWRPC staff comments that WDNR concurred in. The final criteria report has been received from FEMA. The acceptability of continuous simulation hydrologic analysis for FEMA floodplain studies has now been verified and acceptable review criteria have been established.

SEWRPC Staff Memoranda summarizing the proposed hydrologic modeling approach for the Milwaukee River main stem, the entire Underwood Creek subwatershed, and the Menomonee River watershed were submitted to WDNR and FEMA on July 24, 2002, September 16, 2002, and April 24, 2003, respectively. Favorable reviews of the modeling approaches for the Milwaukee River main stem and the Underwood Creek subwatershed were obtained from FEMA. In March of 2004, the SEWRPC staff wrote to FEMA, addressing issues raised by FEMA in their August 22, 2003, letter regarding the approach to the hydrologic analysis of the Menomonee River watershed. Both a February 21, 2005, electronic mail message from PBS&J, on behalf of FEMA, and an April 25, 2005, electronic mail message from the WDNR, indicated agreement with the hydrologic methodology that SEWRPC proposes to apply to the Menomonee River watershed, resolving the issues raised in the August 2003 FEMA review letter. To date, there still has been no response from the WDNR on the SEWRPC Milwaukee River and Underwood Creek memoranda; however, they have now begun review of the Underwood Creek study. It is

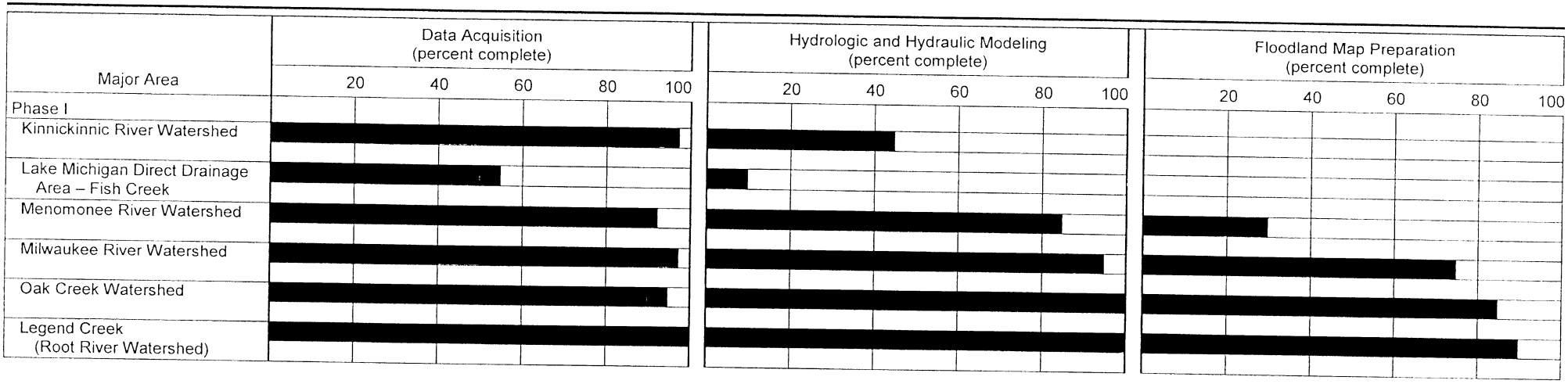
anticipated that the memoranda will be considered as WDNR proceeds with their reviews for each of the watersheds. The Commission staff is continuing with the hydraulic modeling and floodplain mapping for the streams in the study area.

* * *

#107315 V1 - MCAMLIS PH I MILW CTY FLPL STATUS RPT 11
PCE/MGH/pk

Exhibit 1

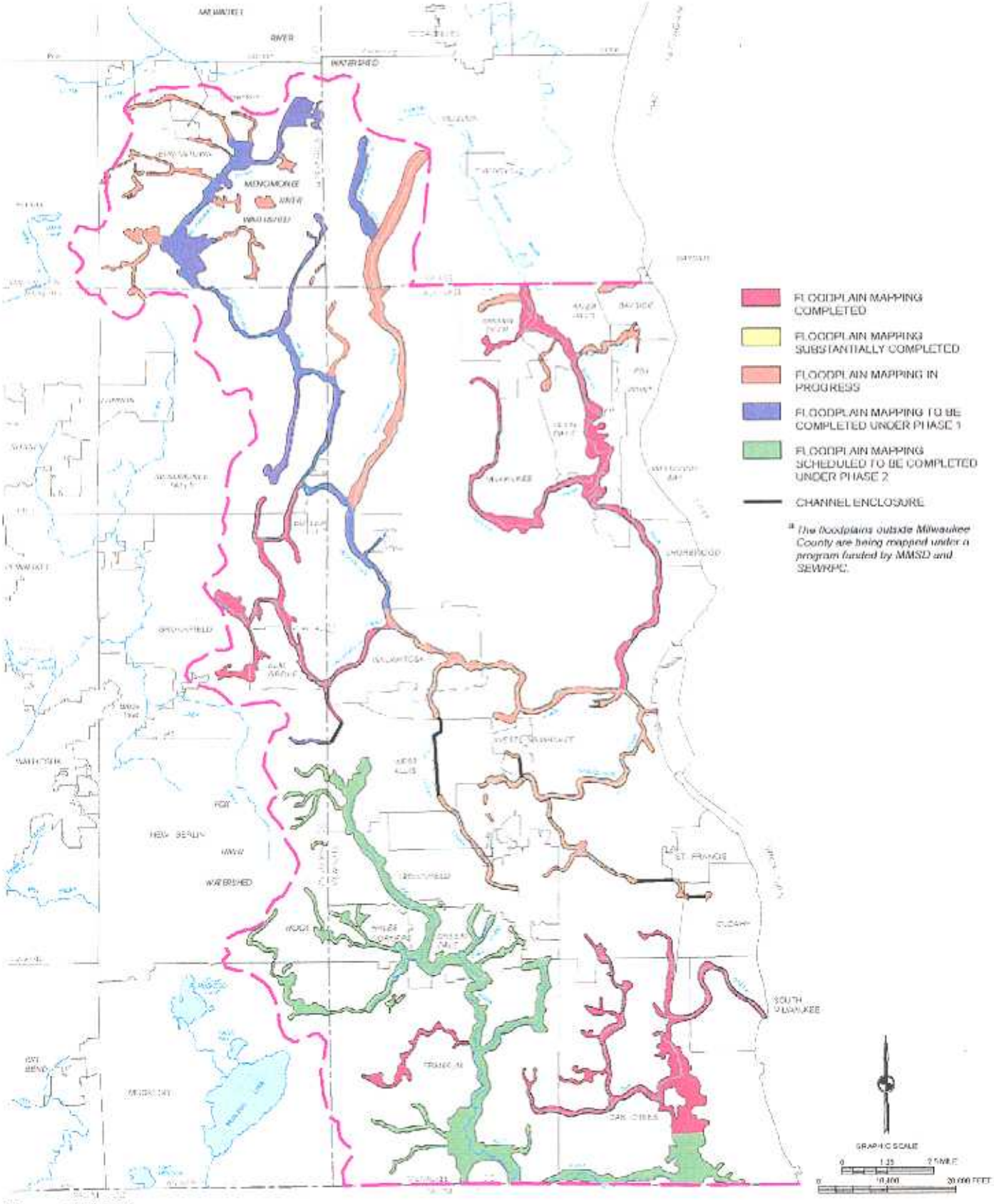
STATUS OF MCAMLIS PHASE I MILWAUKEE COUNTY FLOODLAND MAPPING PROJECT: APRIL 30, 2005



#107315 V1 - MCAMLIS PH I MILW CTY FLPL STATUS RPT 11
MGH/pk
05/02/05

Exhibit 2

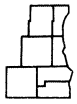
STATUS OF FLOODPLAIN MAPPING IN MILWAUKEE COUNTY AND IN MENOMONEE AND ROOT RIVER WATERSHEDS OUTSIDE MILWAUKEE COUNTY:[a] APRIL 30, 2005



Source: SEWRPC.

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION
W239 N1812 ROCKWOOD DRIVE • PO BOX 1607 • WAUKESHA, WI 53187-1607• TELEPHONE (262) 547-6721
FAX (262) 547-1103

Serving the Counties of



MEMORANDUM

TO: MCAMLIS Steering Committee

FROM: SEWRPC Staff

DATE: May 2, 2005

SUBJECT: **STATUS REPORT NO. 3 ON PHASE II OF THE MILWAUKEE COUNTY FLOODLAND MAPPING PROJECT**

This memorandum sets forth the progress made on Phase II of the Milwaukee County Floodland Mapping project from October 1, 2004, through April 30, 2005. That project phase includes the streams that are to be studied in the County in the Root River watershed except for Legend Creek, which was studied under Phase I. In general status reports will address project progress in the following three major areas and they will also identify major issues that have arisen:

- Data Acquisition
- Hydrologic and Hydraulic Modeling
- Floodland Map Preparation

This status report only lists data acquisition activities, since the modeling and map preparation stages of the project have not yet begun. Overall, the Phase II portion of the project is about 5 percent complete. Progress is summarized in the attached Exhibits 1 and 2. During the reporting period there was no work done on hydrologic and hydraulic modeling or floodland map preparation as the Commission staff focused on work related to Phase I streams.

DATA ACQUISITION

During the period of October 1, 2004, through April 30, 2005, the following data acquisition activities were carried out:

- Work continued on coordination with the MMSD.

MAJOR PROJECT ISSUES AND CONSIDERATIONS

Hydrologic Modeling Procedure Approvals—Because the hydrologic analyses intended to be applied in the Root River watershed are based on continuous simulation methodology, as are most of the analyses made under

Phase I, Phase II of the project requires resolution of issues raised by the Wisconsin Department of Natural Resources and the Federal Emergency Management Agency. It was reported in the sixth and seventh status reports for Phase I, dated January 10, 2003, and May 29, 2003, that, as part of their review of the hydrologic study for the Pike River watershed in Kenosha and Racine Counties, Post, Buckley, Schuh & Jernigan (PBS&J), the Federal Emergency Management Agency's (FEMA) map coordination contractor, was developing a set of standards for acceptable continuous simulation modeling studies. The final FEMA report entitled "Pike River Watershed Hydrology and Continuous Simulation Modeling Review and Summary," was issued on August 14, 2003. As we had speculated in past status reports, the PBS&J review and the resulting FEMA report support the continuous simulation modeling procedures as practiced by the Commission and the MMSD. The Commission wrote to FEMA and WDNR indicating Commission acceptance of the findings of the report; the Commission staff intention to proceed with continuous simulation modeling under the MCAMLIS floodplain mapping project; and asking that WDNR provide review comments on the hydrology memoranda that were submitted in 2002 and 2003.

In December 2003, FEMA initiated a study to develop additional criteria for continuous simulation hydrologic analyses. The additional study is an extension of the August 14, 2003, FEMA study mentioned above. During a November 5, 2004, interagency meeting, the WDNR and SEWRPC staffs reached agreement on the draft FEMA continuous simulation criteria report and, in subsequent drafts, PBS&J has incorporated SEWRPC staff comments that WDNR concurred in. The final criteria report has been received from FEMA. The acceptability of continuous simulation hydrologic analysis for FEMA floodplain studies has now been verified and acceptable review criteria have been established.

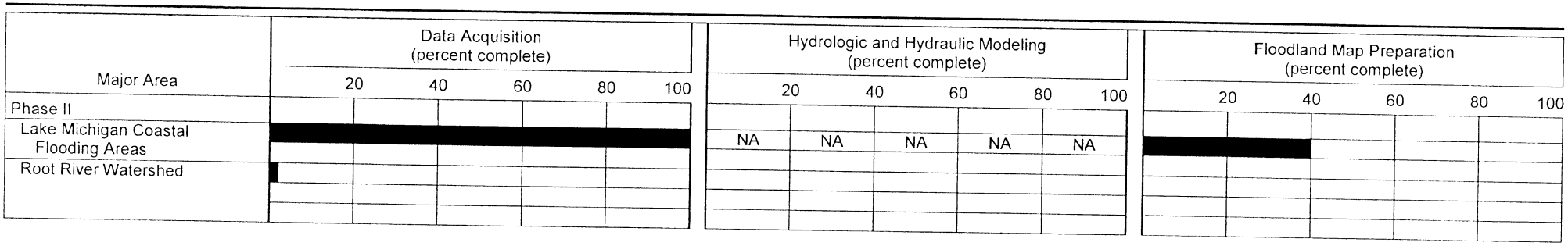
A SEWRPC Staff Memorandum summarizing the proposed hydrologic modeling approach for the Menomonee River watershed was submitted to WDNR and FEMA on April 24, 2003. (The main issues for the Menomonee River watershed continuous simulation hydrologic analysis are also applicable to the Root River watershed analysis.) In March of 2004, the SEWRPC staff wrote to FEMA, addressing issues raised by FEMA in their August 22, 2003, letter regarding the approach to the hydrologic analysis of the Menomonee River watershed. Both a February 21, 2005, electronic mail message from PBS&J, on behalf of FEMA, and an April 25, 2005, electronic mail message from the WDNR indicated agreement with the hydrologic methodology that SEWRPC proposes to apply to the Menomonee River watershed, resolving the issues raised in the August 2003 FEMA review letter. It is assumed that resolution of those issues will also apply to the Root River watershed.

* * *

#107359 V1 - MCAMLIS PH II MILW CTY FLPL STATUS RPT 3
PCE/MGH/pk

Exhibit 1

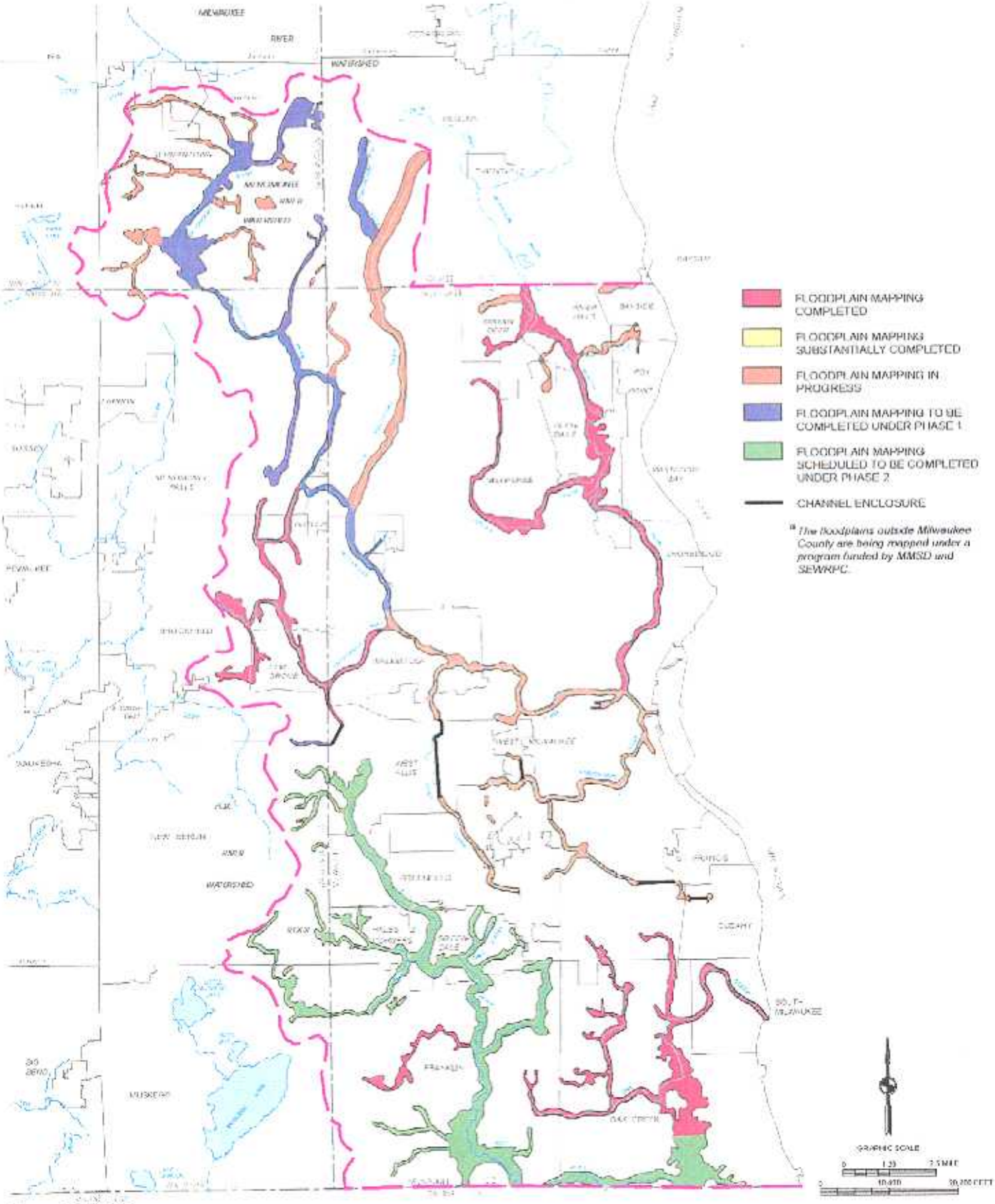
STATUS OF MCAMLIS PHASE II MILWAUKEE COUNTY FLOODLAND MAPPING PROJECT: APRIL 30, 2005



#107359 V1 - MCAMLIS PH II MILW CTY FLPL STATUS RPT 3
MGH/pk
05/02/05

Exhibit 2

STATUS OF FLOODPLAIN MAPPING IN MILWAUKEE COUNTY AND IN MENOMONEE AND ROOT RIVER WATERSHEDS OUTSIDE MILWAUKEE COUNTY:[a] APRIL 30, 2005



Source: SEWRPC.